

whereby water is extruded through the hollow fiber membrane, and the dialysis chamber is elastically stretched. At emptying of the electrode space, the capacitance between the contacts (5a) and (6a) is falling below an incipient value. This is the signal to change the pressure to a below-atmosphere value (ca. -0.08 MPa), whereby the electrode chamber is refilled. When the maximum capacitance is reached, the direction of the gas pressure is changed again and the electrode space is emptied. The speed or the frequency of filling the electrode chamber registered by the change of the capacitance depends on the glucose concentration in the dialysis chamber. In order to prevent differences in the glucose concentration between measuring and dialysis chamber, a repeated filling and emptying of the measuring chamber is recommended. --

**In the Abstract**

Please substitute the following for the previous version:

-- The invention concerns a process for affinity viscosimetry and a viscosimetric affinity sensor on the basis of sensitive liquids with analyte-dependent viscosity which are localized within a perfusable dialysis chamber and contain colloidal constituents which are cross-linked by affinity bonds. The viscosimetric affinity sensor according to this invention is characterized by the spatial or temporal separation of analyte diffusion from the measurement of the flow resistance for such sensitive liquid flowing through a capillary, needle-like body or other liquid conductor, which integrated combination of a dialysis chamber with viscosimeter enables a researcher to make measurements under lab conditions that provide spatial separation of the dialysis process from the rheological analysis, as done under test conditions where the maximum shear rate of sensitive liquid in the viscosity sensor is at least twice that shear rate of sensitive liquid experienced in the dialysis

chamber. An important advantage of the invention consists in small volume-displacement and

negligible structural change within the matrix or organ of living tissue to be investigated.

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